



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF : KOLODY, et al.
FOR : **RADIOLUCENT SURGICAL TABLE WITH
LOW SHADOW ACCESSORY INTERFACE
PROFILE**
SERIAL NO. : 09/804,287
FILED : March 12, 2001
EXAMINER : Thomas Y. Ho
ART UNIT : 3677
LAST OFFICE ACTION : October 15, 2004
ATTORNEY DOCKET NO. : MEDZ 2 01118

Cleveland, Ohio 44114-2518

DECLARATION UNDER 37 C.F.R. §1.131

Mail Stop
Commissioner For Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

As persons signing below:

1. We, Timothy Kolody, Ward L. Sanders, and Victor M. Selig, do hereby declare and say that we are joint inventors in the above-identified United States patent application, Serial No. 09/804,287.

2. We have read and are familiar with U.S. Patent No. 6,671,904 to Easterling ("the '904 patent").

3. We declare that at a date at least prior to October 30, 2000, the effective date of the '904 patent, the invention disclosed in the above-identified U.S.

Patent Application was completed in this country. In this regard, as evidence of completion of the invention prior to October 30, 2000, we have attached hereto redacted copies of: an Initial Invention Disclosure Report submitted to the STERIS Corporation Intellectual Property Management Team comprising four (4) written pages (Exhibit 1); a page with a STERIS logo showing a table edge in cross-section and entitled NEXT GENERATION SURGICAL TABLES CARBON FIBER EDGE PROFILE (Exhibit 2); a drawing sheet bearing a STERIS Corporation caption block and entitled CARBON FIBER SURGICAL TABLE PROFILE (Exhibit 3); and engineering drawings of a surgical table taken in front, top, and side plan views comprising three (3) drawing sheets. We hereby declare and say that the relevant portions of Exhibits 1-4 were prepared at least prior to October 30, 2000, the effective date of the '904 patent. This Declaration is being submitted prior to a final rejection in the present application.

4. Specifically, Exhibit 1 attached hereto describes and Exhibits 2-4 attached hereto show one embodiment of the present invention which comprises a medical appliance support interface for use in a radiolucent patient support table including substantially planar top and bottom surfaces held apart in an opposed relationship, the interface for selectively connecting an associated medical appliance to the table. Exhibits 2-4 show the interface comprising a non-planar first connection area defined by the top surface of the support table and a second connection area defined by the table. The non-planar first connection area is shaped to provide a first supporting force against an associated medical appliance in a first direction substantially parallel to the top and bottom surfaces, and a second supporting force against the associated medical appliance in a second direction substantially perpendicular to the top and bottom surfaces. The second connection area is shaped to provide a third supporting force against the associated medical appliance in a third direction substantially parallel to the top and bottom surfaces, and a fourth supporting force against the associated medical appliance in a fourth direction substantially perpendicular to the top and bottom surfaces. Specifically, Exhibit 3 shows an associated medical appliance supported by the medical appliance support interface using the above-noted forces.

5. Specifically, Exhibit 4, attached hereto, shows another embodiment of the invention comprising a surgical table including a base member, a column

connected with the base member, a rectangular radiolucent patient support member carried on the column, the patient support member defining substantially planar top and bottom surfaces, and a low radiographic shadow accessory connection interface defined by a plurality of curved surfaces of the patient support member along at least one edge of the patient support member for selectively connecting an associated accessory to the patient support member. Exhibits 1-3 attached hereto together with Exhibit 4 describe and show the details of the low radiographic shadow accessory connection interface including a plurality of curved surfaces being without planar portions oriented in substantially perpendicular relation to the planar top surface of the patient support member so that first portions of an associated x-ray signal passing through the connection interface along a path substantially perpendicular to the planar top surface are attenuated substantially the same as second portions of the x-ray signal passing through the patient support member. Exhibit 2 attached particularly illustrates the plurality of curved surfaces of the connection interface including a first connection area adjacent the planar top surface of the patient support member, and a second connection area extending between the first connection area and the bottom surface of the patient support member, the first connection area including a curved lip surface and the second connection area including a planar locating surface disposed in a non-perpendicular relation with the planar top surface. Further, as illustrated there, the planar locating surface extends at an angle of about 50 degrees relative to the top and bottom surfaces of the patient support member. Still further, Exhibit 2 attached hereto particularly illustrates a third connection area between the second connection area and the bottom surface of the patient support member, the third connection area including a downwardly directed curved ridge extending from the bottom surface of the patient support member in a direction opposite from the curved lip surface of the first connection area. Exhibit 1 describes a low radiographic shadow surgical table of the type above mounted via a column extending from the ceiling to the floor.

6. Specifically, Exhibits 1-4, attached hereto, describe and show another embodiment of the invention comprising a medical appliance support interface in a radiolucent patient support table including flat top and bottom surfaces held apart in an opposed relationship, the medical appliance support interface for selectively

connecting an associated medical appliance to the table. Exhibit 1 describes and Exhibits 2-4 show the interface comprising a curved first connection area defined by the top surface of the support table, and a second connection area defined by the table. The first connection area is shaped to provide a first supporting force against an associated medical appliance in a first direction substantially parallel to the top and bottom surfaces, and a second supporting force against the associated medical appliance in a second direction substantially perpendicular to the top and bottom surfaces. The second connection area provides a third supporting force against the associated medical appliance in a third direction substantially parallel to the top and bottom surfaces, and a fourth supporting force against the associated medical appliance in a fourth direction substantially perpendicular to the top and bottom surfaces. Specifically, Exhibit 3 attached hereto shows an associated medical appliance supported by the interface using the above-noted forces.

7. Specifically, Exhibits 1-4, attached hereto, describe and show another embodiment of the present invention comprising a medical appliance interface in a patient support table for creating forces on an associated medical appliance to support the associated medical appliance relative to the table. Specifically, the medical appliance interface comprises a table top having, on opposite sides of the table top, a substantially flat upper surface and a substantially flat lower surface. A groove is defined by the upper surface, the groove being spaced from an upper edge of the table top defined by the upper surface. A ridge is defined by the lower surface, the ridge being disposed at a lower edge of the table top defined by the lower surface. Further, a substantially flat side surface extends between the upper edge of the table top and the lower edge of the table top, the upper, lower, and side surfaces together with the groove and the ridge creating forces supporting an associated medical appliance relative to the table when the associated appliance is connected with the patient support table. Specifically, Exhibits 3-4 show that the substantially flat side surface defines a beveled edge of the table top. Further, Exhibit 1 describes the table top as including carbon fibers. Exhibits 2-4 show the substantially flat side surface being held at an oblique angle relative to at least one of the upper and lower surfaces of the table top. Still further, Exhibit 4 shows the groove as being an elongate groove extending substantially

the length of the table top, and the ridge as being an elongate ridge extending substantially the length of the table top.


8. Specifically, Exhibits 1-4, attached hereto, describe and show another embodiment of the invention comprising a medical appliance support interface. The interface is for use with an associated radiolucent patient support table including substantially planar top and bottom surfaces held apart in an opposed relationship for selectively connecting an associated medical appliance with the table. The medical appliance support interface embodiment comprises a non-planar first connection area defined by the table and a second connection area. The first connection area is shaped to provide a first supporting force against an associated medical appliance in a first direction substantially parallel to the top and bottom surfaces, and a second supporting force against the associated medical appliance in a second direction substantially perpendicular to the top and bottom surfaces. The second connection area provides a third supporting force against the associated medical appliance in a third direction substantially parallel to the top and bottom surfaces, and a fourth supporting force against the associated medical appliance in a fourth direction substantially perpendicular to the top and bottom surfaces. Exhibit 3 shows an associated medical appliance supported by the medical appliance support interface embodiment above using the forces noted above. Exhibit 2 shows the second connection area including a substantially planar surface held at an oblique angle relative to the substantially planar top and bottom surfaces.

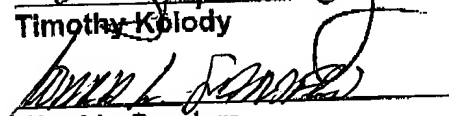
9. Each of the dates deleted from Exhibits 1-4 is a date at least prior to October 30, 2000, the effective date of the '904 patent.

10. It is submitted that the information in the attached Exhibits 1-4 demonstrates that the invention of a medical appliance support interface and a surgical table including a medical appliance support interface was completed in this country at a date at least prior to October 30, 2000, the effective date of the '904 patent.

U.S. Serial No. 09/804,287
Attorney Docket No.: MEDZ 2 01118

We hereby declare that all statements made herein are of our own knowledge and are true, and that all statements are made on information and belief and are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.


Timothy Kolody


Ward L. Sanders

Victor M. Selig

Date: 4/28/2005

Date: 5/10/05

Date: _____

We hereby declare that all statements made herein are of our own knowledge and are true, and that all statements are made on information and belief and are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Timothy Kolody

Date: _____

Ward L. Sanders

Date: _____



Victor M. Selig

Date: 5/10/05

STERIS
Docket # 9800047-08

Received Date _____

**STERIS CORPORATION
INITIAL INVENTION DISCLOSURE REPORT**

1. Descriptive Title:

Carbon Fiber Surgical Table Profile

2.(a) Prior Art. Give a concise technical description of your starting point and any more similar prior apparatus(es) or method(s) or which you were or have become aware (attach extra sheets as necessary).

1) Traditional surgical table construction uses a metal frame with a "top" that bridges the frame pieces (see Fig. 1). The "top" is made of X-ray translucent material to allow interoperative X-rays using a fluoroscope, commonly called a C-arm. The metal frame typically has a stainless steel rail attached to it to allow the attachment of accessory items to the table, such as arm boards, leg holders and the like. This stainless steel rail, called a "side rail", has an industry standard cross-sectional size.

(b) Describe the problems or shortcomings of each prior apparatus or method.

1) The metal frame and side rails interfere with taking of X-rays. While the interference is minimal when the X-ray is taken perpendicular to the plane of the table, often oblique angles are used. The metal frame and side rails limit the oblique angles that can be used to provide usable X-rays.

2) This table improves the situation described in (1) above, but the side rails still interfere with oblique angles.

- 3.(a) Give a concise description of your inventive concept and the apparatus/method with which you carry out the invention. Attach illustrative block diagrams, drawings, or sketches.

The carbon fiber surgical table profile (table profile) consists of a geometric shape at the sides of the table as shown in Fig. 4, attached. The profile allows a table top to be constructed completely from a composite material, such as carbon fiber,

This shape is intended to be used to attach accessories directly to the table, without the use of a side rail adaptor. The profile allows a positive lock of the accessory onto the table, making the accessory more secure than if it were attached to a table top with rectangular cross section. This profile will not cause lines or shadows to be in the X-ray image when the X-rays are taken at any angle other than 30 degrees from perpendicular.

- (b) List the advantages of your invention over the prior apparatus(es) and/or method(s) described in 2(a).

The table then does not restrict the use of low angles for X-rays as do tables with metal frames and side rails. The profile allows accessories to be attached directly to the table, instead of requiring an adaptor to be used. The profile helps prevent accessories from slipping off the table by providing a positive mechanical lock. The profile adds strength to the table top.

- (c) List features of your invention believed to be new.

The use of a geometric side profile to accomplish the advantages listed in (b).

- 4.(a) In what product will (is) the invention be used?

There are two surgical tables being considered for this table top. The first is a combination of the new carbon fiber table top with a modified 3085 (current product) base and pedestal assembly. This product is currently in development. The second is a completely new table that will be mounted via a column extending from the ceiling to the floor. This table is an extension of the one described in Disclosure #9700201-07. This table is not currently being developed, but is intended for future development.

- (b) If known, when was (will) this product:

| | Date (Projected date) | Identify Supporting Documents/Witnesses |
|---|--------------------------|--|
| (a) First demonstrated to a potential client | | |

| | |
|-------------------------------------|--|
| (b) First offered for sale | |
| (c) First sold | |
| (d) First delivered to client | |
| (e) First submitted for publication | |

5. List any of the following dates and information if readily known:

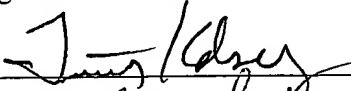
| | Date (Projected date) | Identify Supporting Documents/Witnesses |
|-------------------------------|--------------------------|--|
| (a) Conception of invention | | Vic Selig, Ward Sanders, Tim Kolody, Tom Pherson, |
| (b) First disclosure | | |
| (c) First drawing or sketch | | |
| (d) First written description | | |
| (e) First model/prototype | | |
| (f) First successful test | | |

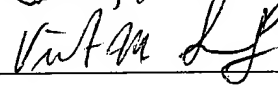
Attach any available photocopies of any identified notebook entries, reports, sketches, drawings, photographs, purchase orders, etc.

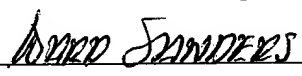
6. If the invention has been described to persons outside the company or in journal publications, describe the circumstances including dates, persons present, and relationship of the outside persons with STERIS Corporation.
7. If there are alternate ways to use the inventive concept, give a brief description of such alternatives.

This profile could be used on table accessories (arm boards, extensions, etc.) as well as for table tops.

Signature of each inventor and date:








Print full legal name, residence address, Post Office address (if different) and citizenship of each inventor.

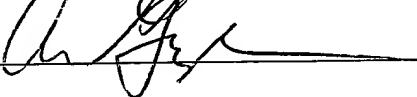
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WITNESSES. I, the undersigned, verify that I have read and understand this *Initial Invention Disclosure Report* and the described invention on the date next to my signature.

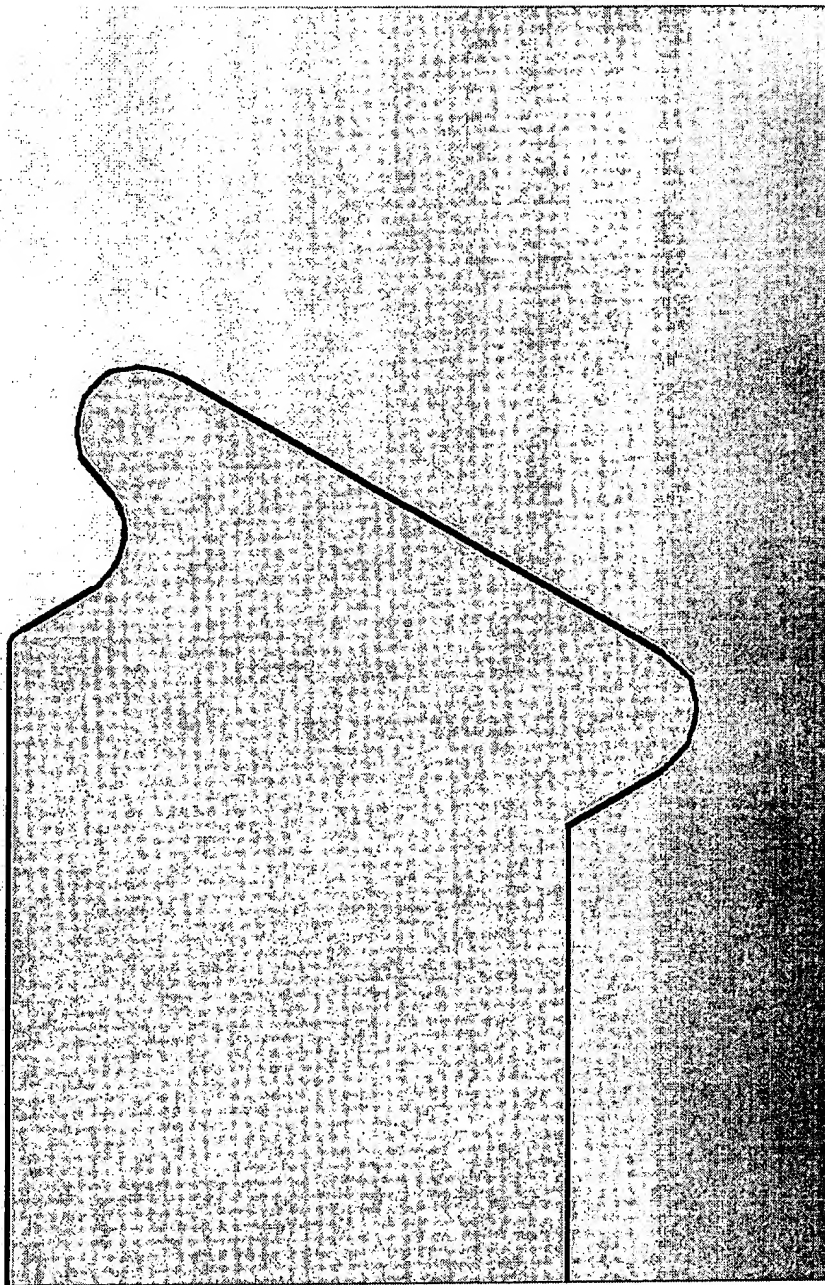






Next Generation Surgical Tables

Carbon Fiber Edge Profile



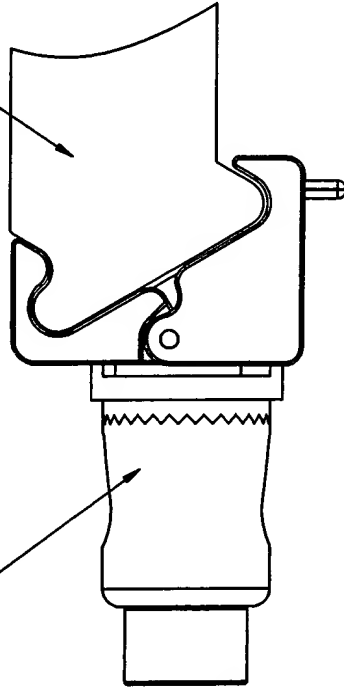
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FIG. 4

| REVISIONS | | | |
|-----------|-----|-------------|----------|
| ZONE | LTR | DESCRIPTION | DATE |
| | | | APPROVED |

CARBON FIBER
TABLE WITH PROFILE

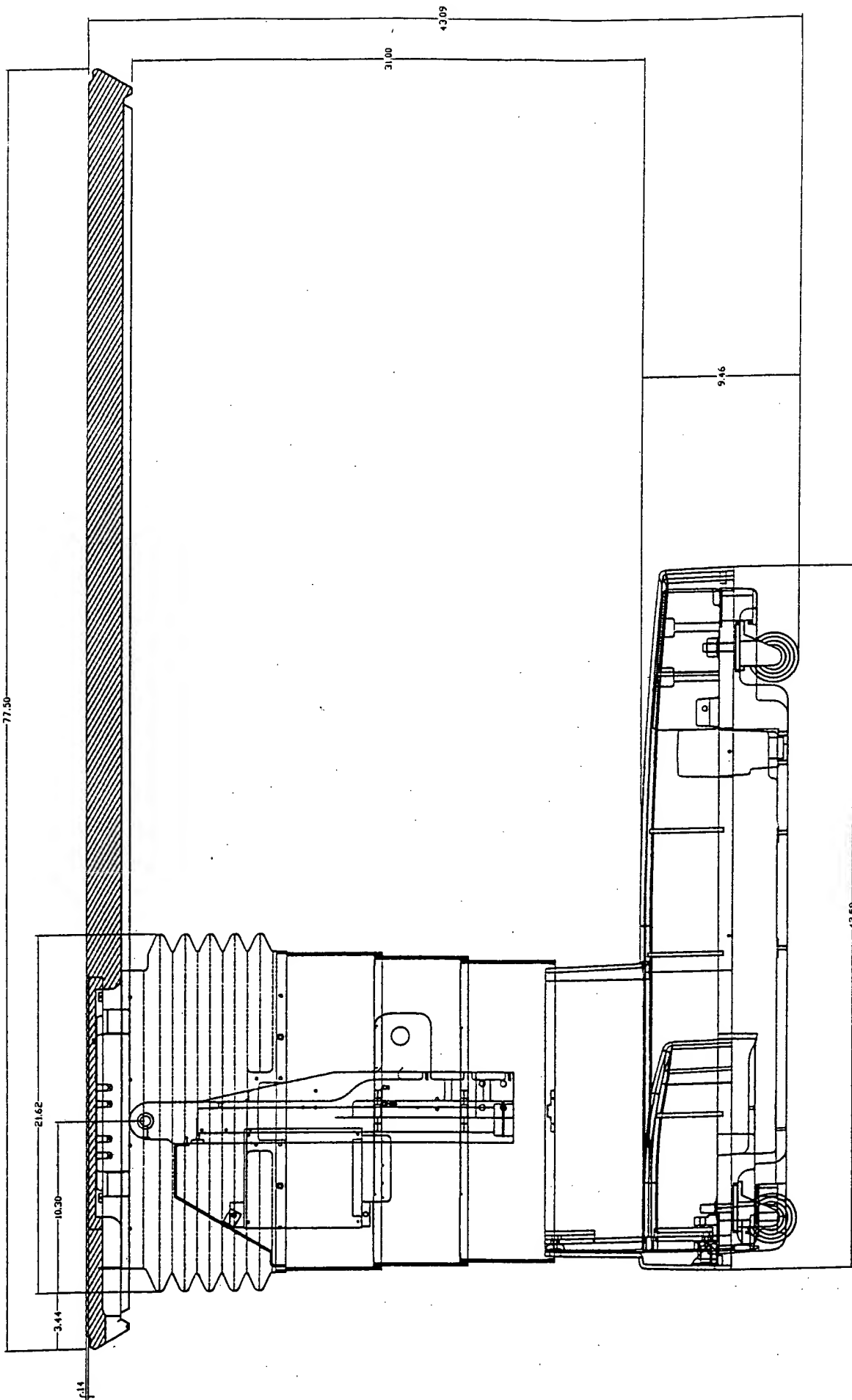
TYPICAL ACCESSORY (CLARK SOCKET)
ATTACHED DIRECTLY TO TABLE PROFILE

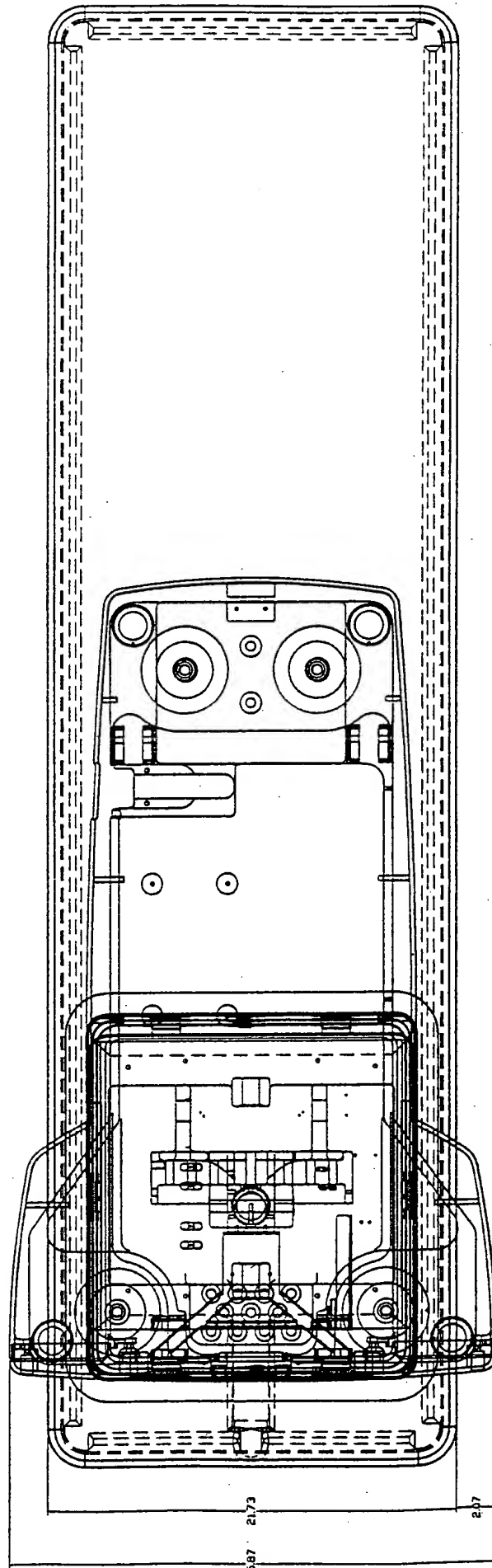


| | |
|---|---------------------------------|
|  STERIS Corporation Mentor, Ohio | |
| FIG. 5 Carbon Fiber Surgical Table Profile | |
| DRAWN BY CHECKED BY APPROVED BY REVISION | DATE DATE DATE DATE |
| MATERIAL FINISH COLOR | |
| SIZE A | PROJECT NO. PART NO. REV. |
| DO NOT SCALE DRAWING | |
| SCALE SHEET | |

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTIONS DECIMALS ANGLES
 $\pm 1/64$ $XX = \pm 0.015$ $\pm 0^\circ 30'$
 $XXX = \pm 0.005$

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2.77

